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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,489	07/18/2003	Robert Louis Cobene II	100110643	2048
22879	7590	11/20/2006	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			GOFF II, JOHN L	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/621,489

Applicant(s)

COBENE, ROBERT LOUIS

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 1-25 and 36-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed on 9/15/06.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka (U.S. Patent 6,024,525) in view of Boss (U.S. Pre-Grant Publication 2001/0019691).

Yamanaka discloses a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus. Yamanaka teaches the method comprises providing an assembly of plural sheets (307 of Figure 2A), providing a hot melt adhesive sheet (T of Figure 1), providing a pair of translating clamping jaws comprising a press (730 of Figure 1) and a clamping body (702 and 703 of Figure 1), displacing the clamping jaws a distance greater than the thickness of the assembly of plural sheets, translating a platen (701 of Figure 1) to contact the hot melt adhesive sheet and pre-heat the hot melt adhesive sheet, contacting the pre-heated hot melt adhesive sheet to a spine surface of the assembly of plural sheets wherein at least one end portion of the sheet protrudes past the spine surface and forms an angle with a plane surface of at least one sheet of the assembly of plural sheets, translating the clamping jaws to apply pressure to the planar surface of the assembly of plural sheets such that the protruding end portion of the hot melt adhesive sheet is between the clamping jaws and the assembly of plural sheets and redirected to the planar surface of the assembly of plural sheets, and continually applying heat to

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the clamping bodies to melt the hot melt adhesive sheet to flow the adhesive into at least a portion of the assembly of plural sheets and form the book-like structure after cooling (Column 4, lines 51-67 and Column 5, lines 41-53). Yamanaka is silent as to including within the clamping jaws (e.g. between the clamping body and press) an active cooling member. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include within the clamping jaws (e.g. between the clamping body and press) taught by Yamanaka an active cooling member such as an actively cooled heat sink as was known in the art as shown by Boss to allow rapid heating and cooling of the assembly, and thus, decrease the time required for binding.

Boss discloses a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus. Boss teaches the method comprises providing an assembly of plural sheets (14 of Figure 2) including an adhesive portion along the spine and planar surface of the assembly (12 of Figure 2), providing a clamping jaw (22 of Figure 2) comprising a press (26 of Figure 2), an actively cooled heat sink (30 of Figure 2), and a clamping body (28 of Figure 2), displacing the clamping jaw at a distance greater than the thickness of the assembly of plural sheets, translating the clamping jaw to apply pressure to the planar surface of the assembly of plural sheets, applying heat to the clamping body to melt the adhesive, and then withdrawing heat from the assembly of plural sheets and the clamping body through the actively cooled heat sink to form the book-like structure (Figure 2 and Paragraph 17). Boss teaches including the actively cooled heat sink within the clamping jaw allows rapid heating and cooling of the assembly of plural sheets and clamping body (Paragraph 17).

Regarding the limitation of removing heat to below the glass transition temperature, it is noted cooling is performed such that the book-like structure is dimensionally stable, i.e. the adhesive is hardened, such that it appears this limitation is met. In any event, it would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the amount of heat removed as a function of the dimensional stability of the book-like structure as doing so would have required nothing more than ordinary skill and routine experimentation.

4. Claims 29-31, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka and Boss as applied to claims 26-28 above, and further in view of Yenni et al. (U.S. Patent 6,090,728).

Yamanaka and Boss as applied above teach all of the limitations in claims 29-31, 34, and 35 except for a teaching of the pre-heating of the hot melt adhesive sheet occurring to above the softening point and glass transition temperature of the hot melt adhesive sheet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the pre-heating in Yamanaka as modified by Boss to above the softening point of the hot melt adhesive sheet as it is well known in the bonding art that heating an adhesive sheet such that it is soft and pliable (and thus capable of being redirected to the planar surface of the assembly of plural sheets as taught by Boss) includes heating to above the softening point and glass transition temperature as shown for example by Yenni et al.

Yenni et al. are exemplary in the bonding art of heating a polymer to above its softening point wherein the definition of the term "softening point" for the polymer is associated with its

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glass transition temperature above which the adhesive become soft and pliable (Column 5, lines 58-60).

Regarding claim 35, Yamanaka does not specifically disclose contacting the platens and clamping jaws with the hot melt adhesive sheet simultaneously. However, the apparatus of Yamanaka is capable of doing so such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Yamanaka as modified by Boss and Yenni et al. contacting the platen and clamping jaws with the hot melt adhesive sheet simultaneously as only the expected results of reducing the bonding time would be achieved.

5. Claims 29, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka and Boss as applied to claims 26-28 above, and further in view of Kuramoto et al. (U.S. Pre-Grant Publication 2002/0064437).

Yamanaka and Boss as applied above teach all of the limitations in claims 29, 32, and 33 except for a teaching of pre-heating of the hot melt adhesive sheet occurring to above the softening point of the hot melt adhesive sheet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the pre-heating in Yamanaka as modified by Boss to above the softening point of the hot melt adhesive sheet at least in discrete points to tack the hot melt adhesive sheet to the spine of the assembly of plural sheets and prevent the hot melt adhesive sheet from displacing during clamping and bonding as was known in the art and shown for example by Kuramoto et al.

Kuramoto et al. disclose a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus. Kuramoto et al. teach the method comprises providing an assembly of plural sheets, contacting a hot melt adhesive sheet to a spine surface of the assembly

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of plural sheets, softening the hot melt adhesive sheet at discrete points to tack the hot melt adhesive sheet to the spine to prevent displacement of the hot melt adhesive sheet during subsequent processing steps, and then bonding the hot melt adhesive sheet to the spine using a clamping apparatus including an active cooling means to form the book-like structure (Paragraphs 47, 49, and 50).

Response to Arguments

6. Applicant's arguments filed 9/15/06 have been fully considered but they are not persuasive.

Applicant argues, "In sum, it is not argued that a skilled person would not have understood how a heat sink works. Rather, it is submitted that when presented with the disclosures in Yamanaka and Boss, the skilled person would not have had any direction or suggestion, in view of those disclosures to add an active heat sink to the system of *Yamanaka*, nor do the documents teach or suggest how features described in the two documents would have been combined. Also, one would not have expected any success from such a modification to the system of *Yamanaka*, as the cited documents teach that an active heat sink would not have worked in devices like those described by *Yamanaka*."

Yamanaka discloses a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus including a pair of translating clamping jaws comprising a press (730 of Figure 1) and a clamping body (702 and 703 of Figure 1). Boss discloses a method of binding a plurality of sheets to form a book-like structure using a clamping apparatus including a clamping jaw (22 of Figure 2) comprising a press (26 of Figure 2), an actively cooled

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heat sink (30 of Figure 2), and a clamping body (28 of Figure 2) wherein the actively cooled heat sink within the clamping jaw allows rapid heating and cooling of the assembly of plural sheets and clamping body. Thus, the direction/suggestion from Boss to include an actively cooled heat sink within the clamping jaws between the clamping body and press to allow rapid heating and cooling of the analogous assembly taught by Yamanaka would have been obvious to one of ordinary skill in the art. There is no disclosure in either Yamanaka or Boss teaching away from this modification. Applicants arguments to the size of the each clamping apparatus in Yamanaka and Boss as teaching away from the combination are not persuasive as there is no teaching in Yamanaka or Boss of the working size of each apparatus and even if there were such a disclosure the argument would not be persuasive as both clamping jaws include like parts such that the inclusion of an actively cooled heat sink in Yamanaka would be appropriately sized.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

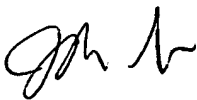
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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

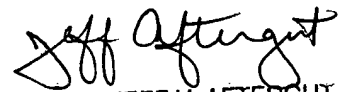
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is (571) 272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John L. Goff



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